CORONA COVER PLAN

8 DEC 1958

SITUATION:

Until September 1958, the CORONA Project was to be concealed in the 1st Phase of the WS-117L Military Reconnaissance Program. It was then decided that such a situation was undesirable because of the following reasons:

1. The WS-117L program has been openly identified as a Military Reconnaissance Satellite and all phases of the program have therefore been tainted with a reconnaissance effort.
2. The international political climate is now hostile to any form of overflight and reconnaissance and this hostility has manifested itself to the point where high government officials might cancel the CORONA program should it continue to be identified with such efforts.

OBJECTIVES:

In light of the above, this plan has been guided by the following requirements:

1. ARPA (Advanced Research Projects Agency) participation must be logically explained.
2. Any intelligence community interest or association in the CORONA effort must be concealed.
3. Any scheduled or contemplated military reconnaissance effort, photographic or otherwise, must be concealed.
4. Any direct connection with a subsequent WS-117L Atlas phase

COR-0160

COPY 19 of 30

utilising identical equipment, must be concealed except where obvious engineering advancements would profit Atlas and other satellite programs.

5. A logical explanation must be given for the required polar orbit, stabilised flight and recovery.
6. Cover missions must satisfy professional curiosity by a logical sequence of technical effort and the production of a product having military application.
7. A relationship with the press must be maintained to prevent continued speculation.

SEPARATION:

1. The true nature and purpose of WS-117L have already been the subject of such extensive public discussion and the number of persons in various contractor companies and in the military services knowledgeable of the program is so large that it is believed to be wholly infeasible to deny that a satellite reconnaissance system is being developed. Accordingly, to secure acceptance of an explanation of the CORONA firings which denies any connection with reconnaissance or with other similar sensitive military activities, it is necessary to describe the entire Thor-boosted series of flights as an activity entirely separate from the WS-117L program. To accomplish this, ARPA has issued a directive separating the WS-117L program into two (2) distinct series, one identified as DISCOVERY (CORONA Thor Boost) and the other as SENTRY (117L Atlas Boost). DISCOVERY will be identified as a practical space platform for the conduct of experiments aimed toward the development of improved military systems.

2. The actual break between WS-117L and the CORONA series occurred on 28 February 1958 when the Director, Advanced Research Projects Agency, in a memorandum to the Secretary of the Air Force, directed that the development of a proposed interim reconnaissance system utilizing the Thor boost be dropped. That memorandum ostensibly authorized the use of the Thor boosters for test flight of the Lockheed developed satellite vehicles and includes provisions for the recovery of biological specimens in furtherance of manned satellite flights. To the allotted number of vehicles, ARPA added an additional ten (10) to permit the acceleration of other programs contemplated for later launchings. A total of nineteen (19) Thor boosters thus became available for the CORONA series, though the specific number of vehicles need never become an intended matter of publicity.

EXPLANATION:

1. To give public circulation to the desired explanation it is vital that at least a minimum amount of information be released and that normal announcements be made. To attempt to deny the press any information regarding the launchings would not only invite a penetration effort on the part of the opposition but create an air of mystery and encourage damaging speculation. At the same time it will be necessary to give consistent but much more complete technical explanations (which will be at least in part classified) to the considerable number of persons who do not need to know the true purpose of CORONA but are in a position to guess what it involves unless they are provided with a convincing alternate explanation. These are mainly military and company personnel working at the launch site, in the recovery force and in companies and military organizations concerned with the series

2. Though it is contemplated that Vandenberg Air Force Base be designated a "maximum security area", it is virtually impossible to conceal the activities preparatory to or at the time of launch. The physical conditions of the facility are such that unauthorized observations can be accomplished with relative ease. Publicity efforts must therefore allow for some "open" firings when public viewing will be permitted through the media of the press, television and radio. The spacing of non-CORONA launchings is such that an occasional open shot is possible and to introduce these shots to the press would (1) promote a cooperative spirit among the media so they will be more likely to respect the closed shots and (2) exhaust the Vandenberg area as a major news story so that, in time, it should be possible to conduct launchings without the glare of publicity which certainly will accompany the initial firings. Since CORONA and non-CORONA vehicles are identical in outward appearance, there is little concern with the unauthorised observations that may occur.

3. It is not intended that publicity accompany only the so-called "open shots". Closing the CORONA launchings to the public and press can be justified under the policy established for the launch area, i.e., that results obtained from certain activities could be of potential significance to the security of the United States in its development of classified military systems, however, a brief statement should be made to the press announcing the intention to launch. Releases for public consumption can refer to the launchings as being what they are in fact, experiments in the development of guidance and recovery techniques in space vehicles designed exclusively to advance the state of the art in pilotless space flight for

whatever application may be deemed desirable. To this extent, CORONA flights can be characterized as hardware development and an evidence of a continuing improvement of U.S. payload capability. Some of the earlier flights can also lay claim to being the means of proving out the instrumentation to facilities of the new Pacific Missile Range and its complex of ground environment stations located in Alaska and Hawaii. In each instance the release prepared to cover the actual CORONA launching should emphasize the development of hardware rather than the collection of scientific data in order to avoid the interference of the vast number of scientists who claim a right to such data.

UNCLASSIFIED COVER:

1. Within the DISCOVERY series, a total of five (5) bio-medical vehicles have been plotted against the launch schedule. Three of the five have actually been committed to the schedule under launchings three, four and seven. The first two will carry mice and the latter will carry a primate. The remaining two vehicles are reserve back-up for use in the event of a failure in the heavier primate vehicle. To further support the cover plan, ARPA will develop two payload packages designed specifically to (1) study navigation of space vehicles, and (2) obtain data useful in the development of an early warning system.

A. Bio-Medical

The true bio-medical payloads will be publicised as tests to determine the environmental conditions of outer space and the effects such conditions have upon living specimens. These will be unclassified launchings toward which more detailed publicity can be directed. An initial release issued to the press in support of CORONA will have established these flights as one of the primary objectives of the DISCOVERY series. The data obtained from such flights will be reported as contributing to the joint NASA/ARPA Man-in-Space program. Though NASA does not have the responsibility for the conduct of those bio-medical flights, they have agreed to support them as being useful to the furtherance of manned satellite flights.

B. Navigation and Early Warning

During the earlier stages of the CORONA program, any reference to the special payloads being developed by ARPA can only be utilized as "internal classified information" needed to satisfy the professional curiosity of personnel in ARPA, BMD and LMSD. Because these programs are in themselves classified, there should not be any public discussion of their existence in the program until such time as they are actually committed to the launch schedule. At that time, the objective involved in the launching can be disclosed but without the usual details that will accompany the bio-medical firings. In the meantime, the development of these special payloads will become known within the various facilities, thus satisfying the curiosity of personnel as to what is forthcoming in the series.

CLASSIFIED COVER:

1. For a considerable period of time, the Special Projects Department of the Lockheed Missile Systems Division has maintained a facility

removed from the main company area for the purpose of concealing the CORONA modifications performed on the after-cone of the primary vehicle. Until recently personnel assigned to this facility were not permitted to reveal any association with LMSD and were actually under cover of the Miller Helicopter Co. This cover arrangement, however, proved to have an adverse effect upon the security of the program for it did not leave room for needed flexibility of personnel. The existence of this facility was thus surfaced to key personnel of LMSD and the Ballistic Missile Division USAF with the following explanation. "By Government direction, LMSD was instructed to conduct certain classified studies dealing with the potential of the WS-117L system. These studies were so successful that additional vehicles were programmed to investigate the advanced vehicle development, conduct measurements of certain suspected space phenomena and perform instrumentation studies. Because the information to be obtained during such proposed flights may affect the realignment of existing programs or other projects now in existence or contemplated, the work to be performed must be accomplished under the most favorable security conditions".

2. It was thus made known that certain classified payloads were being developed by the Lockheed Missile Systems Division under rather strict security conditions. Therefore, when a military classification is given to the launching of a particular vehicle and the press is denied access to the launch area, it would appear logical to the unwitting personnel associated with the program that the data from such flights would be of concern only to those personnel assigned to the Special facility that developed the instrumentation. The press, on the other hand, would be

required to accept the classification on the basis of the maximum security policy established for the launch area.

3. In order to give the special facility the appearance of actually developing special payloads, it will be necessary to have leaks occur within the plant and elsewhere that would tend to give unwitting personal an insight into the type of work being performed. These leaks can be created by having the Special Projects Department (Hiller facility) LMSD prepare written requests to other components for all available data on certain programs, some of which can be fictitious and others real. For example: they can request data and reports on (1) Electronic Countermeasures, (2) Electronic Reflectivity, (3) Maneuverable Vehicles, (4) Reentry Control and Guidance, (5) Magnetic Anomolies, (6) Magnetic Field Affects, (7) Satellite Borne ECM Systems, (8) Ablation, (9) Navigation and (10) Infrared Sensors as if these were of interest to the classified work being performed. The latter two programs will eventually appear on the schedule if all goes well with the primate bio-medical launchings. In time, unwitting personnel will begin associating these programs with what is being accomplished within the special facilities at Hiller.

4. The current launch schedule for the Thor-boosted series lists the CORONA launchings objectives as "Advanced Engineering". These would not necessarily have to be changed since the schedule has been in being for a considerable period and appears to have been accepted as a working paper by those who are familiar with the fact that the payloads for these launchings are classified. Further, any announcement made to the press during a CORONA launching will, of necessity, speak in rather vague terms due to the restrictions governing closed shots.

5. The series will obviously experience a percentage of failures and since such failures cannot be predicted in advance, it is necessary to maintain a cover plan that is flexible enough to adjust to slippages in the program. Therefore, no explanation should be committed to a given vehicle that would prevent its subsequent use in the event of a failure.

RECOVERABLE CAPSULE

1. In many instances there will be a need to explain the use of a recoverable capsule. The large number of personnel involved in the recovery effort makes it virtually impossible to conceal this phase of the operation. In preparing the recovery crews for their mission, both Air Force and Navy personnel should be reminded that the object to be recovered must remain in its original condition and must in no way be tampered with, for to do so would destroy the valuable data and equipment contained therein. They must be impressed with the fact that only professional personnel, specifically trained, can handle the sensitive equipment and instrumentation being recovered.

2. Use of a recoverable capsule can best be explained as being the one means the United States has for preventing outside interrogation of the satellite, preserving the ultimate application of the data to the specific military system under development. It further enables a visual examination of any physical changes in the condition of equipment, furnishes the most accurate data return when combined with some telemetering and also enables the re-use of valuable instrumentation when such is economically feasible.

LOW ALTITUDE - POLAR ORBIT:

1. The requirement of low altitude and polar orbit will obviously have to be explained and defended. Each of these requirements will have to be explained separately so that one or the other does not suffer through guilt by association. For example: First, a polar orbit can be dictated by Range Safety; Second, it is necessary in order to properly exercise the early warning net to detect attack which will logically come from a polar direction. The dictations of Range Safety are well founded. The fact that we are not firing from Patrick AFB, Florida eliminates our use of off shore free water space. Vandenberg AFB Range Safety does not permit launchings to the East for they would endanger the vast land mass and populace of Southern California, Mexico and Central America. To launch in a Westerly direction would cause us to lose the advantage of the earth's rotation. Therefore, the restrictive conditions limit the launch area to 165° to 180° and the fact that the satellite passes over the Soviet Union becomes coincidental rather than intentional.

2. The low altitude obtained by this satellite can best be explained as the limit of our ability. This being the heaviest satellite launched by the United States would not necessarily subject the orbit altitude to question, particularly in light of the various failures the U.S. has experienced in orbiting lesser weights. Again the launch angle can be introduced as a governing factor. Since we cannot launch in an easterly direction, we lose the advantage of the earth's rotation. Explaining such matters to the press will require a careful play of words,

and releases dealing with such matters might well have to take on the appearance of an excuse for this limited ability. It is believed, however, that a successful launch of the DISCOVERER, placing nearly 2,000 pounds in orbit, will be accepted by the press as a major accomplishment and will need little if any explaination.

RESERVE COVER PLAN:

1. It is recognized that in dealing with certain personalities in the military structure and in various fields of industry, there will be a need to reveal that a camera system has been developed and is being utilized. In order to keep from revealing the true purpose of this equipment, it is believed advisable that these individuals, and others to whom equipment may become exposed, be told that cameras contained in the vehicle are part of an effort to conduct celestial observations from a laboratory in space. Such an effort could be in connection with studies of navigation such as that proposed by ARPA for firing later in the series. The reason for withholding such information from the general pulic is that it might be misinterpreted, particularly in light of the recent claims in the press that a "Spy in the Sky" reconnaissance satellite is in the making. Any misinterpretation of the application of the optical system could have a disasterous affect upon our diplomatic relations. In view of this, our claim will be that national security prevents us from disclosing the use of such equipment in any scientific study.

2. In the event test personnel at the site are exposed to the equipment, they can be told that cameras are part of the stabilization

tests being conducted, where it is necessary to have a continuous record of the horizons.

3. It is not intended that any of the above claims be published in advance of a particular launch. Rather it is intended for use as "Highly Classified Information" to be used in the event we must retreat from other explanations due to a vehicle malfunction exposing vital optical equipment, or some other unforseen situation.

ATTACHMENT (2)
    (A) Classified Cover Examples
    (B) Initial Press Release

COPY 19 of 30

~~TOP SECRET~~ ATTACHMENT "A"

CLASSIFIED COVER EXAMPLES

ELECTRONIC REFLECTIVITY: (DECOYS)

It is certainly technologically simple and feasible to utilize a Thor payload to deliver, at orbiting altitudes, a substantial number of balloon decoys indistinguishable from satellites of approximately 117L size. The mental picture conveyed would be of a known single satellite re-appearing over the USSR on the next following orbit as a covey. The sensitivity of such a program would be largely operational rather than technological and would, therefore, be plausible.

MANEUVERABLE VEHICLES:

The rationale underlying maneuverable satellites is fundamentally the same as that underlying Electronic Reflectivity or Decoys. Conceivably a satellite could be caused to "move over" so as to appear in unpredictable places. This also has an operational security advantage.

REENTRY CONTROL:

This notion is more specialized than that of maneuverable satellites in that the maneuvering involved is in either the reentry or possible "bombing" phase. Either the development of a "bombing" satellite or a requirement for increasing the accuracy of a recoverable capsule can be used as explanations. Operational security would need to be maintained.

MAGNETIC ANOMALIES:

Local magnetic variations are not well known and could be of de-

COR-0160

COPY 12 of 30

cided interest for assiting in the navigation of SAC penetration bombers. It is probably feasible to extrapolate magnetic field measurements from Thor 117L orbital altitudes to the surface of the earth.

MAGNETIC FIELD EFFECTS:

This involves the interaction of atomic particles (made available by nuclear explosions at extreme altitudes) with the earth's magnetic field. In general, physicists predictions are that there will be insignificant results at Thor 117L altitudes. However, our elliptic orbits are quite high in apogee and in one or two programs could be higher. The possible implication of these effects are still sufficiently sensitive so as to provide an excuse for some degree of special security.

SATELLITE BORNE ECM:

SAC is continuously on the alert for additional penetration aids. Passive, peaceful looking satellites could possibly contain ECM equipment calculated to disrupt Soviet defenses. This would be a rather thin excuse for persons familiar with ECM but might serve to deceive the nonprofessional.

ABLATION MATERIAL:

The story could be that Lockheed has developed an ablation material sufficiently radical so as to allow very substantial weight reduction in the payload and that this material is a proprietary item which they do not wish Genral Electric or similar competitors to become aware of.

PROPAGATION TESTS:

There is a need for confirmation data on our predictions relative to the characteristics of signal carrying information back from the Atlas-boosted reconnaissance satellites to the read-out stations. It is not necessary to do actual reconnaissance to produce such data. Simulated data could be placed aboard the Thor 117L payload and transmitted back over the United States so that the propagation characteristics at the time of transmittal would be well known. The necessity for special security provisions for such a test is quite tenuous and the desireability of conducting tests connected so closely with reconnaissance is a risk.

VIABILITY OF MAN-IN-SPACE:

While predictions have been made about space environments at the 150 mile level, there is no confirming data since space probes to date have commenced their measurements at much higher altitudes. It will not be long before the X-15 and Dyna-Soar programs place humans at such altitudes. If data measured by Thor 117L payloads was unfavorable there would be great consternation and wholesale reorientation of existing expensive man-in-space programs. This is adequate reason for special security provisions.

FOGGING OF FILM:

This connects to some extent to the magnetic field effects previously mentioned and is primarily a bogus implication that film is affected by the radiation phenomena encountered at high altitudes.

DECOY SIGNALS:

A cover device not particularly connected with any of the above is the possibility of placing a beacon of Vanguard size in the main body of the 117L vehicle. This portion will continue to orbit for up to several days after the recovery capsule has been re-entered. The transmission of undecipherable code-groups from these remains would probably prove very confusing to unwitting observers.

ATTACHMENT "B"

"PROJECT DISCOVERER" SATELLITE
PROGRAM ANNOUNCED BY DOD

The first attempt to launch a satellite over the Pacific Missile Range will be made late this year or early next year from Vandenberg Air Force Base, California, the Department of Defense announced today. This launching will be part of a series designated PROJECT DISCOVERER - - to be carried out by the Department of the Air Force under the direction of the Defense Department's Advanced Research Projects Agency.

The purpose of ARPA's PROJECT DISCOVERER is to continue development of a number of systems and techniques which will be employed in the operation of space vehicles. Although no precise number of launchings has been scheduled for the project, it is expected a considerable number will be attempted because of the nature and variety of the experiments involved and the fact that the satellites will orbit for short periods of time.

The initial launchings primarily will be to test the vehicle itself, especially its propulsion and guidance. Later, the satellites will contain biomedical specimens to seek data on environmental conditions which will be useful to the man-in-space program being carried out jointly by ARPA and the National Aeronautics and Space Administration. As part of this program, live animals also will be carried aloft and their recovery attempted in order to develop the techniques involved.

The first DISCOVERER vehicle is a 2 stage rocket. The main stage is a modified THOR IRBM produced by the Douglas Aircraft Company. The second stage is a new vehicle produced by the Lockheed Aircraft Corporation and powered by a Bell-Hustler engine.

The first DISCOVERER launched satellites are expected to weigh approximately 1300 pounds. This includes the weight of the second stage vehicle which will orbit as an integral part of the satellite after burn-out. Initial versions of the DISCOVERER satellite are designed to orbit for short periods of time at relatively low altitudes. High altitudes are not possible with the weight thrust ratio established for the DISCOVERER.

Much of the data expected to be obtained from Project DISCOVERER such as results of the biomedical flights, will be of general scientific interest and will be unclassified. Other results which will be highly significant for the development of later systems and techniques for space navigation involve national security and will be classified.

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COH-0160

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